

IN THE CLAIMS

1. (currently amended) A method of manufacturing a telescope mirror (21,22) comprising the steps of:

(a) providing a mandrel (10) defining the geometry of the telescope mirror,

(b) depositing a reflective layer (26) on the mandrel surface,

(c) electroforming a mirror body (25) onto the reflective layer (26) by an electrochemical process,

(d) releasing the mirror body (25) with the reflective layer (26) from the mandrel (10), the mirror body (25) and reflective layer (26) forming the telescope mirror,

wherein the electroforming process and the release process are controlled such that the building up of internal mechanism tension within the mirror body is suppressed.

2. (currently amended) The method according to claim 1, wherein the internal mechanism tension is measured during the electroforming process using an additional electroforming sample (18) which is electroformed in parallel and/or an electronic stress measurement device.

3. (currently amended) The method according the claim 1, further including comprising the step of cleaning the mandrel (10) between the method steps (a) and (b).

4. (original) The method according to claim 1, wherein the step of depositing the reflective layer (26) is carried out in a vacuum or electrochemical environment.

5. (original) The method according to claim 1, wherein method step (d) is carried in clean room conditions.

6. (original) The method according to claim 1, wherein the mirror body (25) is electroformed of Ni or Ni-alloy materials.

7. (original) The method according to claim 1, wherein the electroforming step is carried out using an electrochemical liquid having a temperature of between 40°C and 70°C.

8. (original) The method according to claim 1, wherein a supporting structure (23) is attached to the mirror body (25).

9. (original) The method according to claim 8, wherein the supporting structure (23) is attached to the mirror body before releasing the latter from the mandrel.

10. (currently amended) The method according to claim 8, wherein the supporting structure (23) is attached to the mirror body after releasing the latter mirror body from the mandrel.

11. (original) The method according to claim 8, wherein the supporting structure attaching step is carried out under temperature conditions similar to the operating temperature of the telescope mirror.

12. (currently amended) The method according to claim 1, wherein the mandrel mandrels made comprises one of glass, zerodur, Polymethylmetacrylat (PMMA), composite material ~~or and~~ metal are provided.

13. (currently amended) The method according to claim 1, wherein pure gold is used as material of the reflective layer (26) in method step (b) comprises pure gold.

14-30. (canceled)

31. (new) A method of manufacturing a telescope mirror (21,22) comprising the steps of:

(a) providing a mandrel (10) defining the geometry of the telescope mirror,

(b) depositing a reflective layer (26) on the mandrel surface, an optical surface formed at an interface of the reflective layer (26) with the mandrel (10),

(c) electroforming a mirror body (25) onto the reflective layer (26) by an electrochemical process,

(d) releasing the mirror body (25) with the reflective layer (26) from the mandrel (10),

wherein the electroforming process and the release process are controlled such that the building up of internal mechanism tension within the mirror body is suppressed.

32. (new) The method according to claim 31, wherein the internal mechanism tension is measured during the electroforming process using an additional electroforming sample (18) which is electroformed in parallel or an electronic stress measurement device.

33. (new) The method according to claim 31, wherein the reflective layer (26) comprises pure gold.

34. (new) A method of manufacturing a telescope mirror (21,22) comprising the steps of:

- (a) providing a mandrel (10) defining the geometry of the telescope mirror,
- (b) depositing a reflective layer (26) on the mandrel surface,
- (c) electroforming a mirror body (25) onto the reflective layer (26) by an electrochemical process,
- (d) releasing the mirror body (25) with the reflective layer (26) from the mandrel (10),

wherein an optical surface of the reflective layer (26) is formed on a side opposite the reflective layer (26) and the electroforming process and the release process are controlled such that the building up of internal mechanism tension within the mirror body is suppressed.

35. (new) The method according to claim 34, wherein the internal mechanism tension is measured during the electroforming process using an additional electroforming sample (18) which is electroformed in parallel or an electronic stress measurement device.

36. (new) The method according to claim 34, wherein the mirror body (25) is electroformed of Ni or Ni-alloy materials.

37. (new) The method according to claim 34, wherein the reflective layer (26) comprises pure gold.